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AQD Matters

In-house newsletter of the SEAFDEC Aquaculture Department, Tigbauan, Iloilo

AQD sends off Dr Okuzawa, Dr Primavera

What could've easily been a somber affair was celebrated in an atypically light mood. Staff from different AQD divisions gathered at the OC conference room on February 23 to give Dr. Koichi Okuzawa and Dr. Jurgenne Primavera their send-offs.

Dr. Okuzawa will be ending his tour of duty by the end of March and will be moving back to Japan, while Dr. Primavera will be retiring from her post after being with AQD for almost four decades.

In his message, Dr. Okuzawa said that he was glad to be part of AQD, with the institution having been like a family to him. AQD Chief Dr. Joebert Toledo gave him a plaque of recognition, to which Dr. Okuzawa joked that he wouldn't have a place for it given his "very small office" back in Japan.

Dr. Primavera, on the other hand, noted in her message that although she is retiring this February, she will continue to hold office at AQD for her project under the Pew Fellows Program on Marine Conservation (see the AQD website for further info).

She further said she had the best of both worlds while working at AQD, affording her a chance to work at a manageable pace in a world-class institution. She also advised the crowd present to be loyal to science and to the institution.

She was given a plaque in recognition for her service and contributions.

Focusing on shrimp culture in her early studies way back on 1975, Dr. Primavera has shifted to mangrove rehabilitation and related studies.

Earlier, Dr. Okuzawa presented a paper on the regulation of gonadotropin-releasing hormone and its receptor and control of puberty in marine fish.

Whatever plans these scientists embark on next, AQD wishes them all the best in their future endeavors.

- IAN BERJA

The AQD Chief offers a toast to the outgoing Deputy Chief last March 9 at the Executive House; Dr. Okuzawa with wife (who apparently likes to sing and dance) and daughter; Dr. Toledo and Dr. Primavera are all smiles; the honorees listening to tributes from well-wishers

ICD-SA Capiz moves to Phase II training

After conducting Phase I training, the ICD-SA Capiz Project has quickly moved on to Phase II. The second course is the *Hands-on stock sampling, feeding, water management and fish health management*.

The activity, held at the Dayao campus of Capiz State University last March 12-13, kicked off with a briefing on the progress of the collaborative research project by CAPSU Prof. Victor Billanes.

ICD-SA is the *Institutional capacity development for sustainable aquaculture* project in Antique and Capiz.

A total of 31 participants attended the Phase II training. To ensure that the project goes smoothly, theoretical

and practical information was imparted to the stakeholders.

On the first day, Ms. Jocelyn Ladja and Dr. Fe Estepa held lectures on stock sampling and feeding management of grouper and mudcrab, followed by Mr. Eliseo Coniza who tackled pond and water management. Dr. Edgar Amar next handled the lecture and practicals on disease diagnosis, prevention and control.

On the second day, Dr. Estepa, Ms. Ladja and Mr. Coniza supervised the practicals on physico-chemical monitoring and stock sampling and feed computation/ adjustment.

To make sure that all the bases were covered, Ms. Kaylin Corre facilitated the discussion and open forum to clarify any issues and to answer any remaining queries from the group.

Capping the two-day activity was a visit to the Almabis grouper cages in Brgy. Tanque, Roxas City, wherein the participants had a briefing by Mr. Edwin Almabis, the farm owner, on their business venture of growing grouper in cages installed within the pond. The participants also observed the weighing and packing of live market-size grouper for shipment in Manila, at 7-K Business Unlimited at Rizal St., Roxas City, also owned by the Almabis family.

ICD-SA Capiz started last November 16 with the signing of agreement between AQD and the provincial government. It has three components: brackishwater aquaculture (November 2006 to October 2007), freshwater aqua and marine fish hatchery (Feb 07-Jan 08), and coastal resource management (Feb 07-Jan 08).

- From the report of R PAGADOR

Kagoshima U prof visits AQD

Dr. Manabu Ishikawa, a professor from Kagoshima University, Japan, visited AQD last February 26 and 27. Accompanied by UPV researcher Ms. Erlinda Naret, Dr. Ishikawa toured the different hatcheries and laboratories. They also went to the Dumangas Brackishwater Station to see the ponds and the mangrove-friendly aquaculture set-up.

- CV GENZOLA

An evil dinoflagellate; black seabass boon

Sushi lovers in the U.S. can take comfort that growers are stepping up to meet the demand for black sea bass, while crustacean lovers are not so lucky.

In a research seminar held at the RD AV-Room last January 25, Dr. Richard Lee extolled the virtues of the mariculture of the black seabass *Centropristis striata*, but raised concerns about the dreaded *Hematodinium* sp.

Dr. Lee entertains questions from the audience after which the AQD Chief Dr. Joebert Toledo and Deputy Chief Dr. Koichi Okuzawa gave him a Certificate of Appreciation

First, the bad news: *Hematodinium* is a dinoflagellate which causes high mortalities in crabs and related organisms in the U.S. east coast, France, Australia, Alaska, and Canada. They provoke the crustaceans' immune systems, consuming oxygen-carrying protein, resulting to suffocation. Although the hosts take the parasites to their watery graves along with themselves, their spawn live on and remain in the water, all but guaranteeing that the vicious cycle continues.

Dr. Lee said that the focus of his work has been on the development and use of a very sensitive molecular or gene-based diagnostic test to detect *Hematodinium* sp. in the water, as well as in crab hosts. Among the methods he discussed were the use of histological and molecular diagnostics, the latter including the use of peptic nucleic acid (PNA).

Now for some good news for sushi lovers: due to increased demand for the black sea bass, Dr. Lee and his team have developed and tested a recirculating system, wherein the sea bass were fed a live diet of juvenile tilapia. They were averse to using pellet feed since it degrades the water quality, and seabass prefers live tilapia over pellets. He did mention that the startup capital would be substantial, but the potential payoffs could be huge.

Dr. Lee is a professor at the Skidaway Institute of Oceanography in the University Systems of Georgia, USA. In addition to the above research, he has worked on grass shrimp bioassay and genotoxicants in retention ponds in urban and suburban sites in coastal Georgia.

BFAR training directors drop by AQD

BFAR –RFTC (Regional Fisheries Training Center) Directors and two of their staff visited AQD last March 9-10.

They are: Dir. Milagros Morales (RFTC Aparri); Dir. Ismael Jerry Fermo (RFTC Palawan); Dir. Lorna Cardano (RFTC Tabaco, Albay); Dir. Eduardo Suderio (RFTC Carmen, Cebu); Dir. Andrew Ventura (RFTC Panabo, Davao Del Norte); Dir. Norberto Berida (RFTC Catbalogan, Samar) and his staff Clutide Amparado, and Dir. Pendatun Talib (RFTC Zamboanga) and his staff Abubakar Abdula.

The visitors went to the different hatcheries and facilities at Tigbauan Main, and also saw the cages at Igang Marine and the brackishwater ponds at Dumangas Station.

They were also briefed by AQD Chief Dr. JD Toledo, the Division heads, and other SEAFDEC staff. - CV GENZOLA

AQD Chief Dr. JD Toledo and seaweed program leader Dr. Hurtado address the participants during the opening program. Right after, the trainees can be found working hard learning biotech tools . The participants were (clockwise from upper right) Jennie Fernandez, Evelyn Dangla, Renolfo Lasagas, Jumelita Romero, Ma. Salvacion Ferrer, and Ida Capacio

Biotech tools for seaweed culture

As a top export commodity, it is but proper to further improve the culture of seaweed using the latest biotechnology tools.

In this vein, AQD did its share by conducting the *Seaweed tissue culture and sporulation* course, which kicked off February 19 with an opening program.

The training had six participants take part in lectures on biology and seaweed farming, laboratory work and field trips. For the most part, though, they were holed up in the laboratory to do exercises in photomicrography, protoplast isolation, sporulation, tissue culture and ultaviolet mutagenesis.

In her message during the opening ceremony, Dr. Anicia Hurtado, program leader for seaweed strain improvement, emphasized the importance of the training.

"The biotech tools you will be learning," Dr. Hurtado told the trainees, "are very timely answers to the problems of the seaweed industry, in particular, the availability of cultivars which become scarcer year after year."

Also gracing the activity were AQD Chief Joebert D. Toledo, Dr. Evelyn Ayson, and seaweed researcher Ms. Maria Rovilla Luhan. They emphasized in their messages the need to keep up with the increasing demand for seaweeds in the international market through improved culture techniques.

The training course is a joint undertaking of AQD, USAID-GEM and BFAR-NFRDI through the biotechnology program.

AQD's research on seaweeds dates back from 1988, resulting to several publications on *Gracilaria*, *Kappaphycus* and *Eucheuma* from farming systems, biofiltration, hydrocolloid characterization, disease occurence, and more recently on tissue culture. The course ended March 23.

- IAN BERJA

Photos courtesy of DR. LIO-PO

Dr. de la Peña explains the mechanics of operating a thermal cycler for the PCR test

Dr. Lio-Po orients participants at the start of the cell culture practicals

A trainee adds diluent during tissue filtrate preparation

Practical session on submission of fish samples for disease diagnosis

The Myanmar report 1: fish health management

Outbreaks of fish mortalities had been experienced by fish farmers in Myanmar. However, their fish farmers are not fully aware of the etiologic agents of these diseases. In addition, the diagnostic capability of the DOF's (Department of Fisheries) Aquatic Animal Health Laboratory had been focused mainly on shrimp virus detection. Yet the same facilities can be utilized for diagnosis of fish diseases as well.

To address this, the *On-site Training Course on Fish Health Management* was envisioned to educate the fish farmers and DOF fish health staff on economically-important fish diseases, basic approaches to assessment of fish epizooties, and basic diagnostic skills.

The training, conducted last January 29-February 4, 2007 in Yangon, Myanmar, was spearheaded by Dr. Gilda Lio-Po and Dr. Leobert de la Peña of AQD.

The activity aimed to provide participants with advanced theoretical and practical knowledge on signs and epizootiologies of economically-important fish diseases; evaluation of fish epizooties; submission of diseased fish samples for diagnosis; and basic laboratory skills for detection of viral, bacterial and parasitic pathogens.

The workshop targeted DOF staff and private company researchers in the aquaculture industry in Myanmar.

Ten participants attended the training course, consisting of five technical staff of the DOF and five from the private sector (fish farmers, hatchery operator, feed company staff). In addition, four observers—three coming from the DOF and a university assistant professor—attended the course.

The hands-on nature of the practicals and the limited equipment and laboratory space at their Aquatic Animal Health Lab limited the number of participants to ten, although the DOF initially requested for 20 participants.

The 7-day course consisted of lecture sessions and practical activities.

Topics on assessment of fish mortality outbreaks; identification of parasitic, viral and bacterial fish diseases; and processing of fish samples were also explored.

The course culminated in a field trip to freshwater fish grow-out ponds in Twantay Township, the Aquadev Tilapia hatchery/farm in Pauk and the DOF's Hlawga Fishery Station. A meeting with the fish farmers regarding fish disease and mortality experiences was also conducted.

The enthusiasm to improve aquaculture was very palpable among the DOF staff, fish farmers and related commercial companies. If said enthusiasm is sustained, coupled with the application of knowledge and skills learned, Myanmar's DOF and fish farmers just might be able to keep these diseases at bay.

The activity was made possible through the Government of Japan Trust Fund Fish Disease Project, SEAFEC/AQD in collaboration with the Department of Fisheries, Ministry of Livestock and Fisheries, Union of Myanmar.

- From the report of Dr. GD LIO-PO

Hands-on inoculation of fish cell culture and tissue filtrate preparation

Lecture session of Dr. de la Peña at the conference room of the Aquatic Animal Health and Fish Quality Building

Demonstration on the preparation of the gel for PCR test

Inoculating agar medium for isolation of bacteria

The Myanmar report 2: shrimp health management

White tail. Taura syndrome. White spot. How to combat them all? Through education, of course. And hence, AQD went to Yangon to do an on-site training/workshop on shrimp and prawn health management.

Conducted February 5-9, this course followed fish health management (see previous page).

Twenty-three participants, 11 of whom were from the DOF and 12 from the Marine Shrimp Association, an organization composed of shrimp and freshwater prawn farmers, participated in the 5-day activity.

The aim was to reach out and enable the participants to learn the basic principles of shrimp and prawn health management.

Emphasis was given to disease recognition using gross signs so that participants who are directly involved in shrimp and prawn farming can make use of the knowledge as a means to give support to disease surveillance and reporting from the farm level.

The entry of AQD to Myanmar started with the perception that despite the numerous training activities conducted by SEAFDEC, there still seem to be a lack of capacity in fish health management.

The first solution was to include a training component to the surveillance trips under the *Establishment of Disease Surveillance System for Aquatic Animals* funded by the Japanese Trust Fund. Though finally, the on-site courses were conducted under a cost-sharing scheme with DOF-Myanmar, the Marine Shrimp Association and AQD.

The laboratory exercises enhanced the appreciation of laboratory staff and farmers on the use of various levels of diagnostic techniques to manage shrimp and prawn health.

The field trips for sample collection gave the participants a view on simple techniques for sampling gathering, preparation for transport, fixation, and packing for submission to a laboratory

The course was designed to encourage the participation of culturists in recognizing disease occurrence, reporting them, and gathering samples for diagnosis.

The trainees were under the tutelage of Dr. Leobert de la Peña and Dr. Celia Lavilla-Pitogo, who lectured them on pond preparation, soil and water management; standard protocols for shrimp farm decontamination in case of disease outbreaks; disease monitoring, surveillance and reporting; use of PCR and other molecular diagnostic tools for disease detection; and best aquaculture practices and code of conduct for aquaculture, among other relevant topics.

- From the report of Dr. CR PITOGO

Photos courtesy of DR. CR PITOGO

From top

Laboratory and practical work at the Aquatic Animal Health Laboratory in Thaketa

Field trip at the Ashar Ashar freshwater prawn farm

Field trips to PAG Hatchery and Key Brothers Hatchery

Malaysian guests tour AQD

Even the hot and humid March weather did not dampen the enthusiasm of three visitors from Malaysia during their visit to AQD, last March 5-7.

The three guests, hailing from Bari Aquatech in Kuala Lumpur, were Dr. Seng-Keh Teng, Scientific and Technical Advisor; Dr. Ghazali Ismail, Scientific & Technical Director and Mr. Syadid Ahmad Zaharan, Project Manager.

They embarked on the tour to meet with AQD Chief Joebert D. Toledo and staff to explore possibilities of technical collaboration between the institution and the Ibuzawa Corporation.

Following a short stop at the Office of the Chief for a courtesy call, the tour was up and running. The places they visited included the abalone hatchery, mudcrab hatchery, seahorse/stock enhancement project, phycology lab, fish health laboratory and the biotech laboratory at Tigbauan Main.

They were also able to visit the Igang Marine Station in Guimaras.

They interacted and gathered relevant information from the persons in charge of the studies and activities.

In addition to the AQD visit, the three gentlemen's to-do list in coming to the country include the visit to commercial abalone farms in Iloilo and Cebu, procurement of live abalone broodstock and juveniles, and the recruitment of professionals with expertise on abalone culture, algal production and feed formulation.

Collaboration being the keyword, it is hoped that the proposed partnership come to fruition and push aquaculture development in the region.

From top
Meeting with AQD Chief Dr. Toledo

Taking a peek at juvenile abalone in the hatchery

Conferring with Dr. Josefa Tan-Fermin at the seahorse stock enhancement project

Dipping into the well of wisdom with Dr. Emilia Quinitio at the mudcrab hatchery

Greening from here to here at the phyco lab

Contributions from AQD employees are always welcome!

Please send text separately from your JPEG photos (300 dpi or better). Devcom also uses these materials to update the AQD website and as SEAFDEC Newsletter articles. Having the original text and photos would give us more flexibility

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Editor this issue: RP Guarin

Many thanks to our contributors who helped us gather the facts and images that make up a story.

Secretariat, milestones, and videotape

Video and still cameras? Check. Proper getup? Check. Sense of creativity and direction? Check.

Arming themselves with these, Mr. Mokkara Phanchuen, Audiovisual Officer, and Mr. Thaweesak Chanloi, Multimedia Section Head from SEAFDEC's Training Department in Samut Prakan, Thailand, captured AQD for video posterity. These they did upon the direction of the SEAFDEC Secretariat who is set to produce a video on the milestone achievements of its Departments for the upcoming 40th anniversary in December.

The duo came to AQD last March 6-9, and, after a courtesy call to AQD Chief Dr. Joebert Toledo (later interviewed on-camera), explored AQD like only meticulous and thorough videographers can, leaving no laboratory facility or hatchery unturned.

Since a picture is worth a thousand words, we'll just let the pictures (and captions) tell the tale of the (video) tape.

Photos by R GUARIN

A little face time with the chief


Um, hello? I'm posing with mudcrab young here; maybe some attention?


Suffering for art (direction) to get that perfect seabass shot at DBS


Hmmm....wonder what the secret formula of AQD's feeds are?


Having Ms. Neneng Eullaran explain milkfish hatchery ops


Grouper's anatomy: shot and tagged while drugged. Fun for us, not for the fish


Getting up close and personal with the DNA sequencer, and Ms. Nia Santos


Documenting Dr. Felix Ayson as he gives his take on grouper culture


Here, fishy, fishy: capturing the feeding of fish stocks at IMS


Greenlighting the video shoot at the phyco lab with Ms. Mila de la Peña

Feeding grouper, take 2, action!


Letting their hair and videocam down at the old Lopez abode with Ms. Mila Castaños